



SEQUENCE LISTING

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<120> GAMMA-1 AND GAMMA-3 ANTI-HUMAN CD23 MONOCLONAL ANTIBODIES AND USE
THEREOF AS THERAPEUTICS

<130> 037003-0275470

<140> 09/019,441

<141> 1998-02-05

<150> 08/803,085

<151> 1997-02-20

<160> 39

<170> PatentIn Ver. 2.1

<210> 1

<211> 390

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mature peptide is derived from Old
World Monkey (macaque); leader sequence is an artificial sequence to
facilitate cloning

<220>

<221> misc_feature

<222> (1)..(57)

<223> leader sequence

<220>

<221> mat_peptide

<222> (58)..(390)

<220>

<221> CDS

<222> (1)..(390)

<400> 1

atg gcc tgg act ctg ctc ctc gtc acc ctc ctc act cag ggc aca gga	48
Met Ala Trp Thr Leu Leu Leu Val Thr Leu Leu Thr Gln Gly Thr Gly	
-15 -10 -5	

tcc tgg gct cag tct gcc ccg act cag cct ccc tct gtg tct ggg tct	96
Ser Trp Ala Gln Ser Ala Pro Thr Gln Pro Pro Ser Val Ser Gly Ser	
-1 1 5 10	

cct gga cag tcg gtc acc atc tcc tgc act gga acc agc gat gac gtt	144
Pro Gly Gln Ser Val Thr Ile Ser Cys Thr Gly Thr Ser Asp Asp Val	
15 20 25	

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ggt ggt tat aac tat gtc tcc tgg tac caa cac cac cca ggc aaa gcc 192
Gly Gly Tyr Asn Tyr Val Ser Trp Tyr Gln His His Pro Gly Lys Ala
 30          35          40          45

ccc aaa ctc atg att tat gat gtc gct aag cgg gcc tca ggg gtc tct 240
Pro Lys Leu Met Ile Tyr Asp Val Ala Lys Arg Ala Ser Gly Val Ser
          50          55          60

gat cgc ttc tct ggc tcc aag tct ggc aac acg gcc tcc ctg acc atc 288
Asp Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
          65          70          75

tct ggg ctc cag gct gag gac gag gct gat tat tac tgt tgt tca tat 336
Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr
      80          85          90

aca acc agt agc act ttg tta ttc gga aga ggg acc cgg ttg acc gtc 384
Thr Thr Ser Ser Thr Leu Leu Phe Gly Arg Gly Thr Arg Leu Thr Val
      95          100          105

cta ggt
Leu Gly
110

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<210> 2
<211> 130
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<400> 2

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Met Ala Trp Thr Leu Leu Leu Val Thr Leu Leu Thr Gln Gly Thr Gly
          -15          -10          -5

Ser Trp Ala Gln Ser Ala Pro Thr Gln Pro Pro Ser Val Ser Gly Ser
      -1    1          5          10

Pro Gly Gln Ser Val Thr Ile Ser Cys Thr Gly Thr Ser Asp Asp Val
      15          20          25

Gly Gly Tyr Asn Tyr Val Ser Trp Tyr Gln His His Pro Gly Lys Ala
      30          35          40          45

Pro Lys Leu Met Ile Tyr Asp Val Ala Lys Arg Ala Ser Gly Val Ser
          50          55          60

Asp Arg Phe Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile
          65          70          75

Ser Gly Leu Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Cys Ser Tyr
      80          85          90

Thr Thr Ser Ser Thr Leu Leu Phe Gly Arg Gly Thr Arg Leu Thr Val
      95          100          105

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Leu Gly
110

<210> 3
<211> 423
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<220>
<221> misc_feature
<222> (1)..(57)
<223> leader sequence

<220>
<221> mat_peptide
<222> (58)..(423)

<220>
<221> CDS
<222> (1)..(423)

<400> 3

atg	aaa	cac	ctg	tgg	ttc	ttc	ctc	ctc	ctg	gtg	gca	gct	ccc	aga	tgg	48
Met	Lys	His	Leu	Trp	Phe	Phe	Leu	Leu	Leu	Val	Ala	Ala	Pro	Arg	Trp	
				-15					-10					-5		
gtc	ctg	tcc	cag	ctg	cag	ctg	cag	gag	tgc	ggc	cca	gga	gtg	gtg	aag	96
Val	Leu	Ser	Gln	Leu	Gln	Leu	Gln	Glu	Ser	Gly	Pro	Gly	Val	Val	Lys	
	-1	1					5					10				
cct	tgc	gag	acc	ctg	tcc	ctc	acc	tgc	gct	gtc	tct	ggg	ggc	tct	gtc	144
Pro	Ser	Glu	Thr	Leu	Ser	Leu	Thr	Cys	Ala	Val	Ser	Gly	Gly	Ser	Val	
	15					20					25					
agc	agt	agt	aac	tgg	tgg	acc	tgg	atc	cgc	cag	ccc	cca	ggg	aag	gga	192
Ser	Ser	Ser	Asn	Trp	Trp	Thr	Trp	Ile	Arg	Gln	Pro	Pro	Gly	Lys	Gly	
	30			35				40						45		
ctg	gag	tgg	att	gga	cgt	atc	tct	ggg	agt	ggg	ggg	gcc	acc	aac	tac	240
Leu	Glu	Trp	Ile	Gly	Arg	Ile	Ser	Gly	Ser	Gly	Gly	Ala	Thr	Asn	Tyr	
				50				55						60		
aac	ccg	tcc	ctc	aag	agt	cga	gtc	atc	att	tca	caa	gac	acg	tcc	aag	288
Asn	Pro	Ser	Leu	Lys	Ser	Arg	Val	Ile	Ile	Ser	Gln	Asp	Thr	Ser	Lys	
			65				70					75				
aac	cag	ttc	tcc	ctg	aac	ctg	aac	tct	gtg	acc	gcc	gcg	gac	acg	gcc	336
Asn	Gln	Phe	Ser	Leu	Asn	Leu	Asn	Ser	Val	Thr	Ala	Ala	Asp	Thr	Ala	
		80				85					90					
gtg	tat	tac	tgt	gcc	aga	gat	tgg	gcc	caa	ata	gct	gga	aca	acg	cta	384
Val	Tyr	Tyr	Cys	Ala	Arg	Asp	Trp	Ala	Gln	Ile	Ala	Gly	Thr	Thr	Leu	
	95					100					105					

ggc ttc tgg ggc cag gga gtc ctg gtc acc gtc tcc tca
Gly Phe Trp Gly Gln Gly Val Leu Val Thr Val Ser Ser
110 115 120

423

<210> 4
<211> 141
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<400> 4

Met Lys His Leu Trp Phe Phe Leu Leu Leu Val Ala Ala Pro Arg Trp
-15 -10 -5
Val Leu Ser Gln Leu Gln Leu Gln Glu Ser Gly Pro Gly Val Val Lys
-1 1 5 10
Pro Ser Glu Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Gly Ser Val
15 20 25
Ser Ser Ser Asn Trp Trp Thr Trp Ile Arg Gln Pro Pro Gly Lys Gly
30 35 40 45
Leu Glu Trp Ile Gly Arg Ile Ser Gly Ser Gly Gly Ala Thr Asn Tyr
50 55 60
Asn Pro Ser Leu Lys Ser Arg Val Ile Ile Ser Gln Asp Thr Ser Lys
65 70 75
Asn Gln Phe Ser Leu Asn Leu Asn Ser Val Thr Ala Ala Asp Thr Ala
80 85 90
Val Tyr Tyr Cys Ala Arg Asp Trp Ala Gln Ile Ala Gly Thr Thr Leu
95 100 105
Gly Phe Trp Gly Gln Gly Val Leu Val Thr Val Ser Ser
110 115 120

<210> 5
<211> 387
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<220>
<221> misc_feature
<222> (1)..(66)
<223> leader sequence

<220>

<221> mat_peptide
<222> (67)..(387)

<220>
<221> CDS
<222> (1)..(387)

<400> 5

atg gac atg agg gtc ccc gct cag ctc ctg ggg ctc ctt ctg ctc tgg	48
Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Trp	
-20 -15 -10	
ctc cca ggt gcc aga tgt gac atc cag atg acc cag tct cca tct tcc	96
Leu Pro Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser	
-5 -1 1 5 10	
ctg tct gca tct gta ggg gac aga gtc acc atc act tgc agg gca agt	144
Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser	
15 20 25	
cag gac att agg tat tat tta aat tgg tat cag cag aaa cca gga aaa	192
Gln Asp Ile Arg Tyr Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys	
30 35 40	
gct cct aag ctc ctg atc tat gtt gca tcc agt ttg caa agt ggg gtc	240
Ala Pro Lys Leu Leu Ile Tyr Val Ala Ser Ser Leu Gln Ser Gly Val	
45 50 55	
cca tca agg ttc agc ggc agt gga tct ggg aca gag ttc act ctc acc	288
Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr	
60 65 70	
gtc agc agc ctg cag cct gaa gat ttt gcg act tat tac tgt cta cag	336
Val Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln	
75 80 85 90	
gtt tat agt acc cct cgg acg ttc ggc caa ggg acc aag gtg gaa atc	384
Val Tyr Ser Thr Pro Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile	
95 100 105	
aaa	387
Lys	

<210> 6
<211> 129
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<400> 6

Met Asp Met Arg Val Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp
-20 -15 -10
Leu Pro Gly Ala Arg Cys Asp Ile Gln Met Thr Gln Ser Pro Ser Ser

-5	-1	1		5		10									
Leu	Ser	Ala	Ser	Val	Gly	Asp	Arg	Val	Thr	Ile	Thr	Cys	Arg	Ala	Ser
				15					20					25	
Gln	Asp	Ile	Arg	Tyr	Tyr	Leu	Asn	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys
			30					35					40		
Ala	Pro	Lys	Leu	Leu	Ile	Tyr	Val	Ala	Ser	Ser	Leu	Gln	Ser	Gly	Val
		45					50					55			
Pro	Ser	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Glu	Phe	Thr	Leu	Thr
	60					65					70				
Val	Ser	Ser	Leu	Gln	Pro	Glu	Asp	Phe	Ala	Thr	Tyr	Tyr	Cys	Leu	Gln
	75				80					85					90
Val	Tyr	Ser	Thr	Pro	Arg	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile
				95					100					105	

Lys

<210> 7
<211> 411
<212> DNA
<213> Artifical Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<220>
<221> misc_feature
<222> (1)..(57)
<223> leader sequence

<220>
<221> mat_peptide
<222> (58)..(411)

<220>
<221> CDS
<222> (1)..(411)

<400> 7

atg	gag	ttt	ggg	ctg	agc	tgg	gtt	ttc	ctt	ggt	cct	ctt	ttg	aaa	ggt	48
Met	Glu	Phe	Gly	Leu	Ser	Trp	Val	Phe	Leu	Val	Pro	Leu	Leu	Lys	Gly	
			-15					-10					-5			
gtc	cag	tgt	gag	gtg	cag	ctg	gtg	gag	tct	ggg	ggc	ggc	ttg	gca	aag	96
Val	Gln	Cys	Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Ala	Lys	
	-1	1					5					10				
cct	ggg	ggg	tcc	ctg	aga	ctc	tcc	tgc	gca	gcc	tcc	ggg	ttc	agg	ttc	144
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Arg	Phe	
	15					20					25					

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acc ttc aat aac tac tac atg gac tgg gtc cgc cag gct cca ggg cag 192
Thr Phe Asn Asn Tyr Tyr Met Asp Trp Val Arg Gln Ala Pro Gly Gln
30 35 40 45

ggg ctg gag tgg gtc tca cgt att agt agt agt ggt gat ccc aca tgg 240
Gly Leu Glu Trp Val Ser Arg Ile Ser Ser Ser Gly Asp Pro Thr Trp
50 55 60

tac gca gac tcc gtg aag ggc aga ttc acc atc tcc aga gag aac gcc 288
Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala
65 70 75

aac aac aca ctg ttt ctt caa atg aac agc ctg aga gct gag gac acg 336
Asn Asn Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
80 85 90

gct gtc tat tac tgt gcg agc ttg act aca ggg tct gac tcc tgg ggc 384
Ala Val Tyr Tyr Cys Ala Ser Leu Thr Thr Gly Ser Asp Ser Trp Gly
95 100 105

cag gga gtc ctg gtc acc gtc tcc tca 411
Gln Gly Val Leu Val Thr Val Ser Ser
110 115

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<210> 8
<211> 137
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mature peptide is derived from Old World Monkey (macaque); leader sequence is an artificial sequence to facilitate cloning

<400> 8

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Met Glu Phe Gly Leu Ser Trp Val Phe Leu Val Pro Leu Leu Lys Gly
-15 -10 -5

Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Ala Lys
-1 1 5 10

Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Arg Phe
15 20 25

Thr Phe Asn Asn Tyr Tyr Met Asp Trp Val Arg Gln Ala Pro Gly Gln
30 35 40 45

Gly Leu Glu Trp Val Ser Arg Ile Ser Ser Ser Gly Asp Pro Thr Trp
50 55 60

Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Glu Asn Ala
65 70 75

Asn Asn Thr Leu Phe Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr
80 85 90

Ala Val Tyr Tyr Cys Ala Ser Leu Thr Thr Gly Ser Asp Ser Trp Gly
95 100 105

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Gln Gly Val Leu Val Thr Val Ser Ser
110 115

<210> 9
<211> 41
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 9
atcacagatc tctcaccatg gacatgaggg tccccgctca g 41

<210> 10
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 10
atcacagatc tctcaccatg aggctccctg ctcag 35

<210> 11
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 11
atcacagatc tctcaccatg gaarccccag ckag 35

<210> 12
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 12
atcacagatc tctcaccatg gtgttgaga cccaggtc 38

<210> 13
<211> 32
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 13

ggtgcagcca cagtagcttt gatytccasc tt

32

<210> 14

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 14

atcacagatc tctcaccatg rcctgstccc ctct

34

<210> 15

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 15

atcacagatc tctcaccatg gcctgggrctc ygct

34

<210> 16

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 16

atcacagatc tctcaccatg gcmgtggaycc ctctc

35

<210> 17

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 17

cttgggctga cctaggacgg t

21

<210> 18

<211> 30

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 18

gcgactaagt cgaccatgga ctggacctgg 30

<210> 19
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 19

gcgactaagt cgaccatgaa acacctgtgg 30

<210> 20
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 20

gcgactaagt cgaccatgga gtttgggctg agc 33

<210> 21
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 21

gcgactaagt cgaccatggg gtcaaccgcc atc 33

<210> 22
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 22

gcgactaagt cgaccatgtc tgtctccttc ctc 33

<210> 23
<211> 46
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 23

gccaggggga agaccgatgg gcccttggtg ctagctgagg agacgg 46

<210> 24
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 24

gatgggccct tggtgctagc tgaggagacg g 31

<210> 25
<211> 51
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 25

ggtgctagct gaggagacgg tgaccaggac tccctggccc cagaagccta g 51

<210> 26
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 26

atttagtgta cactata 17

<210> 27
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 27

gttttcccag tcacga

16

<210> 28

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 28

atatacgact cactataggg

20

<210> 29

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 29

ccgtcagatc gcctggagac gcc

24

<210> 30

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 30

gcagttccag atttcaactg

20

<210> 31

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 31

ccaggccact gtcacggctt c

21

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 32

cagagctggg tacgtcctca

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 33

gccccagag gtgctcttgg

20

<210> 34

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 34

acacagaccc gtcgacatgg

20

<210> 35

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 35

gctctcggag gtgctcctgg

20

<210> 36

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 36

acagaccgt cgaccatgga gtttgggctg

30

<210> 37
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 37

ccccttggtg ctagctgagg agacggt 27

<210> 38
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 38

agagagaacg ccaagaacac actgttt 27

<210> 39
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 39

aaacagtgtg ttcttggcgt tctctct 27